New River Focus Area

The New River Focus Area includes approximately the southern third of Yavapai County, Arizona. This area is characterized by an irregular line of rugged mountains that exist in a northwest to southeast trending line. These mountains give way to desert lowlands in the southwestern part of the county.

This area is included in the southern part of the Basin and Range physiographic province. This province extends through the intermountain western United States, and is characterized by landforms of long, linear mountain ranges separated by long valleys. These features are the result of extensional tectonic forces, which resulted in normal faulting with downthrown blocks (valleys) and upthrust mountain ranges. In Arizona, the Basin and Range province bends to a northwest – southeast trend due to the narrowing of the North American continent to the south. These tectonic forces are illustrated by the northwest to southeast trending normal faults that exist along the southwest flank of the mountains throughout the study area.

Geologically, the mountain ranges of the New River Focus Area are a complex assortment of Mesozoic granite uplifts, tertiary volcanic basalt flows, and sedimentary rock units. The sedimentary units vary in age depending upon the location; some are older deposits that were deformed by uplift or metamorphism, while others are more recently deposited by erosional forces from the uplifted mountain ranges.

Mining is widespread throughout the area, and includes historic and current mining operations for metals (primarily copper), commodity rock materials (sand and gravel), and decorative stone.

Prominent mountain ranges in the study area include the Mazatzal and New River ranges (east of I-17), the Bradshaw and Weaver Mountains in the central part of the study area (west of I-17 through Crown King and south of Prescott), and the Date Creek Mountains (western part of the Focus Area).

Hydrogeologically, the major surface drainages in the area include the Verde River system (east of I-17), the Agua Fria River system (along and west of I-17), the Hassayampa River system (west central part of the study area) and the Santa Maria River system (far western part of the study area). Groundwater in the study area is widely variable in depth-to-water, yield capacity, and water quality, and is largely dependent upon local geology and infiltration by seasonal rainfall.

2.2.2 Hydrological Resources and Issues

This section describes water resources located within the study area including surface water, groundwater, and water basins. Surface waters were identified from reviewing topographic maps. Aquifers were identified from the United State Geological Survey *Groundwater Atlas for the United States* (1995). The major water basins for the Focus Areas were identified from the ADWR website.

Coconino-Yavapai Focus Area

Perennial streams and rivers in Coconino County include the Colorado River, the Little Colorado River, Oak Creek, the upper portion of West Clear Creek, and East Clear Creek and its tributaries. Other surface waters within the Focus Area include numerous lakes: Lake Powell, Lake Mary, Ashurst Lake, Mormon Lake, and Long Lake. Streams and rivers in

Yavapai County include the Verde River, Sycamore Creek, Santa Maria River, and Agua Fria River. Lakes within Yavapai County include Lake Pleasant and Horseshoe Lake.

Although highly valued for human uses, areas bordering surface water not only provide habitat, but they also perform important hydrologic functions such as discharging floodwaters, filtering stormwater runoff, and recharging groundwater. Steep slopes and ridgelines can also be environmentally sensitive. Property owners often desire steep slopes for residential construction because they can offer spectacular views; however, these slopes may contain a wide range of vegetation types and provide valuable habitat for a diversity of bird and wildlife species. Slopes can often have unstable, highly erodible soils, as well. Figure 2-3a illustrates the slopes within the Coconino-Yavapai Focus Area.

The Coconino De-Chelly, Dakota Glen Canyon, and Mesaverde aquifers are groundwater sources for Coconino County. The Coconino-De Chelly aquifer and the Basin and Range aquifer are located in Yavapai County.

The major water basins for the Focus Area were identified from the ADWR website. The major water basins within Coconino County include the Kanab Plateau, Coconino Plateau, Little Colorado River Plateau, Peach Springs and the Verde River. The major water basins within Yavapai County include Peach Springs, Big Sandy, Verde River, Agua Fria, Prescott Active Management Area, Bill Williams and the Upper Hassayampa.

Navajo-Hopi Focus Area

Perennial streams and rivers in Navajo County include the Little Colorado River, Clear Creek, and Chevelon Creek. A number of small lakes are located within Navajo County. The Little Colorado River is the major river in Yavapai County. Many Farms Lake, Lyman Lake, and a number of smaller lakes are located within Yavapai County. Similar to the Coconino-Yavapai Focus Area, a variety of slopes exist within the Navajo Hopi Focus Area (Figure 2-3b).

The Coconino De-Chelly, Dakota Glen Canyon, and Mesaverde aquifers are groundwater sources for Navajo and Apache Counties. The major water basins within Navajo County include the Little Colorado River Plateau, Joseph City Irrigation Non-Expansion Area, and Salt River. The major water basins within Apache County include the Little Colorado River Plateau, Salt River, and Morenci basins.

New River Focus Area

Water resources within the New River Focus Area overlap with those identified for Yavapai County. Perennial rivers and streams include the Agua Fria River and the Santa Maria River. Lake Pleasant is also located within this Focus Area. The Basin and Range aquifer is located within this Focus Area. The major water basins within this Focus Area include the southern portions of the Bill Williams, Upper Hassayampa, and Agua Fria basins. Of the three Focus Areas, the New River Focus Area has the steepest slopes (Figure 2-3c).

Regional Framework Study:
Northern Arizona, Coconino-Yavapai Focus Area

PRELIMINARY
DRAFT

UTAH
ARIZONA
Colorado City
Fredonia
Kaibab Paiute Tribe
Lake Powell
Page
Paria Canyon-Vermillion Wilderness Area
Vermillion Cliffs National Monument
BM&LP RR
COCONINO COUNTY
NAVAJO COUNTY
Western Arizona Framework Study
KAIBAB PLATEAU
Kaibab National Forest
MORMON RIDGES
Mount Trumbull Wilderness Area
Grand Canyon-Parashant National Monument
Mount Logan Wilderness Area
MOHAVE COUNTY
COCONINO COUNTY
Navajo Nation
Grand Canyon National Park
Havasupai Tribe
Colorado River
Navajo-Hopi Focus Area
Hualapai Tribe
COCONINO PLATEAU
Little Colorado River
GC RLY
AUBREY CLIFFS
Wupatki National Monument
PAINTED DESERT
BNSF
SAN FRANCISCO PEAKS
Williams
Camp Navajo
Flagstaff
Winslow
MOHAVE COUNTY
YAVAPAI COUNTY
JUNIPER MOUNTAINS
Kaibab National Forest
Mormon Lake
Canyon Diablo River
Sedona
Clarkdale
Chino Valley
Jerome
Cottonwood
Prescott National Forest
Upper Burro Creek Wilderness Area
Coconino National Forest
Yavapai-Prescott Indian Tribe
Prescott Valley
Yavapai-Apache Nation
Camp Verde
Prescott
Dewey-Humboldt
Eastern Arizona Framework Study
MOGOLLAN MESA
Chevelon Canyon River
Santa Maria River
Agua Fria National Monument
Verde River
Apache-Sitgreaves National Forest
New River Focus Area
BRADSHAW MOUNTAINS
Agua Fria River
Payson
GILA COUNTY
White Mountain Apache Tribe
Tonto National Forest

NOTE:
While every effort has been made to ensure the accuracy of this information, the study team makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

Figure 2-3a Slope Analysis

Legend

- City/Town
- Interstate
- Highway
- Railroad
- River
- Lake
- County Boundary
- State Boundary
- Framework Study Boundary
- Focus Area Boundary

Slope Analysis

- 5% or less
- 5 - 10%
- 10 - 15%
- 15 - 20%
- 20% or more

NORTH

0 5 10 20
Miles

Sources: ALRIS 2007, ADOT 2007

April 25, 2008

Regional Framework Study:
Northern Arizona, Navajo-Hopi Focus Area

PRELIMINARY

DRAFT

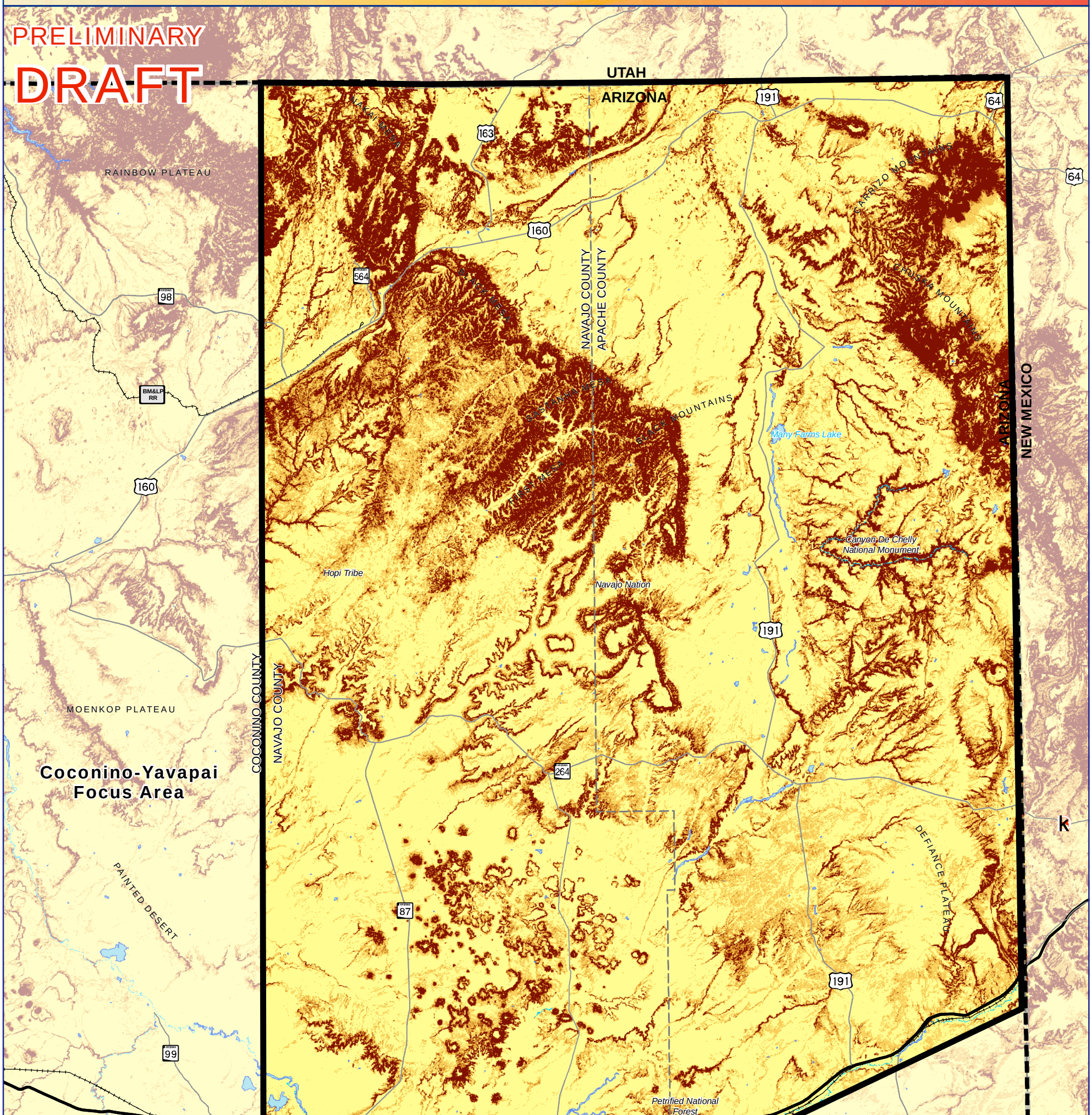

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Figure 2-3b Slope Analysis

Legend

- City/Town
- Interstate
- Highway
- Railroad
- River
- Lake
- County Boundary
- State Boundary
- Framework Study Boundary
- Focus Area Boundary

Slope Analysis

- 5% or less
- 5 - 10%
- 10 - 15%
- 15 - 20%
- 20% or more

NORTH

0 5 10 20
Miles

Source: ALRIS 2007, ADOT 2007

April 25, 2008

Regional Framework Study: Northern Arizona, New River Focus Area

PRELIMINARY
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Figure 2-3c
Slope Analysis

Legend
- City/Town
- Interstate
- Highway
- Railroad
- River
- Lake
- County Boundary
- Framework Study Boundary
- Focus Area Boundary
- Wilderness Area
- National Monument

Slope Analysis
- 5% or less
- 5 - 10%
- 10 - 15%
- 15 - 20%
- 20% or more

Chino Valley
Jerome
Clarkdale
Cottonwood
Prescott Valley
Prescott
Dewey/Humbolt
Camp Verde
Yavapai-Prescott Indian Tribe
Yavapai-Apache Nation
Coconino National Forest
Prescott National Forest
Tonto National Forest
Agua Fria National Monument
Arrastra Mountain Wilderness Area
Hassayampa River Canyon Wilderness Area
Hell's Canyon Wilderness Area
Wickenburg
Cave Creek
Carefree
Cavecreek Reservoir

MOHAVE COUNTY
YAVAPAI COUNTY
COCONINO COUNTY
LA PAZ COUNTY
MARICOPA COUNTY
GILA COUNTY

Western Arizona Framework Study
Coconino-Yavapai Focus Area
Eastern Arizona Framework Study
I-10 Hassayampa Valley Framework Study
MAG Regional Transportation Plan

NOTE:
While every effort has been made to ensure the accuracy of this information, the study team makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

NORTH
0 2.5 5 10
Miles

Sources: ALRIS 2007, ADOT 2007

April 25, 2008